1. Safety

The BILZ SCK synchro chuck is not only characterised by its outstanding technical features, but also by its easy handling and maintenance free properties

Please note to the following points in order to ensure correct application.

⚠ **1.1 Explanation of Symbols**
If this symbol is used, disregard of our instructions can lead to danger to people and property.

1.2 Area of Application
BILZ SCK synchro chucks are suitable for tool clamping.

⚠ **The product may only be used within the given technical limits. This includes the conditions set down by the manufacturer for installation, operation, assembly, maintenance and working environment. Usage above and beyond these conditions is considered as not correct for purpose. The manufacturer will not give any guarantee on such usage.**

1.3 Safety Advice
1.3.1 The following technical limits must not be exceeded. (see table below)

Description	Clamping Range Tap Size	Shank	Nut Torque max.	Compensation Compression/Tension	Coolant Pressure max.	Idle Running Speed max.	Minimum Insert Depth
SCK0..-ESX12	M2-M8	2,8-6,0mm	18Nm	± 0,15mm	50bar	15.000min-1	23,5-25,5mm
SCK1..-ESX20	M4-M12	4,5-11,2mm	< Ø 6,5, 32Nm > Ø 7, 37Nm	± 0,15mm	50bar	15.000min-1	29-42mm
SCK2..-ESX32	M4-M20	4,5-18,0mm	136Nm	± 0,15mm	50bar	15.000min-1	31-47mm
SCK3..-ESX40	M10-M30	10,0-22,0mm	176Nm	± 0,80mm	50bar	15.000min-1	41-54mm
SCK4..-ESX50	M30-M42	22,0-32,0mm	300Nm	± 2,0mm	50bar	15.000min-1	63-69mm

⚠ **1.3.2. For rotation applications, a protective cover according to EC Machinery Directive 2006/42/EG must be used.**

1.3.3 Tool clamping and installation of the synchro chuck in a machine may only be carried out by technically trained staff who have familiarised themselves with the operating instructions.

Basic rules:
a. Wear gloves when changing tools to avoid injury.
b. When releasing the tool, hold it tightly to prevent it falling and damaging both the tool and workpiece.
c. Do not exceed the max. tool dimensions.
d. Maximum cutting speed and feed values exist for every application. Do not exceed these values.

2. Warranty:
The warranty period is 12 months from delivery date, if used correctly and in adherence to the operating and maintenance instructions (See Page 2, Point 6)

3. Installation
3.1 Clean chuck with a cloth in order to remove oil.

⚠ Important: Do not use aggressive solvents. Only use lint-free cloths.

3.2 The tapping tool is held by means of a collet type ER/ESX..GB. , DIN6499-B

3.3 Assembly of the collets and tap
To prevent soiling of the collet, and if you are using coolant or MQL, the sealing disc must first be fitted into the clamp nut.

4. Clamping / Releasing

4.1. The tool shank must be free of burrs and dirt.

4.2. Assembly of the collets:
Mount the collet groove on the marked position on the eccentric ring of the clamp nut. Tilt the collet in the opposite direction until this locks audibly. Insert the tool. Screw the clamp nut with the locked collet onto the thread of the holder.We recommend tightening the collet with a torque wrench and use the spanner flat to hold against this (tightening torques see table under Point 1.3).

⚠ **Incorrect handling will affect the concentricity of the collet and can damage the clamp nut.**
Only clamp nuts with a correctly mounted collet should be inserted into the collet holder.

4.3. Assembly of the sealing disc:
When inserting the sealing disc into the clamp nut, the marking on the sealing disc must be legible from behind.
Insert the sealing disc into the collet and push it forward until it clicks. The correct assembled sealing disc is plane with the nut.

4.4 Removal of the sealing disc:
To remove the sealing disc, press on the disc from the outside until it jumps out.

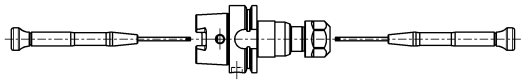
⚠ **It is essential to insert the tool from the front, otherwise the O-ring in the sealing ring will be damaged.**
When inserting the tool, make sure that the sealing disc is not pushed back.

4.5 The tool must be inserted into the chuck at least to the minimum insert depth (see table Page 1).

4.6 Removal of the collets:
After unscrewing the holder, press the front of the collet and at the same time press the collet out of the clamp nut by pressing the back part, opposite the marking.

5. Length Adjustment

5.1. The length adjustment is operated through the connection on the machine side, or through the collet by means of an Allen key.



5.2. The max. torque on the adjustment screw must not exceed 4Nm.

5.3. Please ensure that the suitable adjusting screw for the tap shank is used (see table under Point 5.3)
Max. length adjustment 3mm.

Description Synchro Chuck	Adjusting Screw IC	Tap Ø x □													
		4,5x3,4	5x4	6x4,9	7x5,5	8x6,2	9x7	10x8	11x9	12x9	14x11	16x12	18x14,5	20x16	22x18
SCK1..-ESX20	SCK110C-...	5013780	5013781	5012783	5012792	5012793	5012796	5012809	5013782						
SCK2..-ESX32	SCK210C-...			5013824	5013825	5013826	5012864	5012868	5012869	5012869	5012870	5012871	5013789		
SCK3..-ESX40	SCK310C-...							5016661	5016662	5016662	5016663	5016664	5016665	5016666	5016667

5.4. Behind the length adjustment screw there is elastomer for damping. So we prevent damage of the tap or length adjustment screw while tightening the clamping nut.

5.5. For all SCK4-ESX50 the screw SCK410G-M16x1 (5065065) will be used for all tap shanks sizes from 22mm up to 32mm.

⚠ **ATTENTION!**
- **The setting screw must be released by one turn after reaching the max. screwing depth.**
  (to ensure the function of the spring system)
- **Only use the socket wrenches provided.**
- **Do not move the adjusting screw when the tool is clamped.**

6. Care and Maintenance

6.1. Clean regularly with a cloth. Do not use aggressive solvents and only use lint-free cloths.
6.2. Before storage ensure that all coolant and other residue is removed and the tools are sprayed with an anticorrosion agent.